

WHAT WE CLAIM ARE:

1. A method of forming an organic insulating film, comprising steps of:
coating solution on a substrate, the solution being obtained by
dissolving monomer or oligomer in solvent, the monomer or oligomer having a
5 triple-bond of two carbon atoms and being used as a raw material of organic
insulating material; and
irradiating ultraviolet rays upon the monomer or oligomer coated on
the substrate to conduct polymerization and form an insulating film comprising
the organic insulating material.
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2. A method of forming an organic insulating film according to claim 1, wherein
the ultraviolet rays contain components having a wavelength of 200 to 350 nm.
3. A method of forming an organic insulating film according to claim 1, wherein
15 the ultraviolet rays are irradiated to the substrate in the ambient of oxygen
content less than 100ppm.
4. A method of manufacturing a semiconductor device, comprising steps of:
(a) coating solution on a substrate formed with a semiconductor
20 active element on a surface of the substrate, the solution being obtained by
dissolving monomer or oligomer in solvent, the monomer or oligomer being used
as a raw material of organic insulating material; and
(b) irradiating ultraviolet rays upon the monomer or oligomer coated
on the substrate to conduct polymerization and form an insulating film comprising
25 the organic insulating material.

5. A method of manufacturing a semiconductor device according to claim 4, wherein the monomer or oligomer used as the raw material of organic insulating material has triple-bonds of two carbon atoms and polymerization is conducted at the triple-bonds in the step (b).
6. A method of manufacturing a semiconductor device according to claim 5, wherein the ultraviolet rays contain components having a wavelength of 200 to 350 nm.
7. A method of manufacturing a semiconductor device according to claim 4, wherein the ultraviolet rays are irradiated in the step (b) while the substrate is heated.
8. A method of manufacturing a semiconductor device according to claim 7, wherein the substrate is heated in the step (b) at a temperature not higher than 350 °C.
9. A method of manufacturing a TFT substrate comprising steps of:
- forming, on a surface of a transparent substrate, a plurality of thin film transistors disposed in a matrix shape, a gate wiring line corresponding to each row of the thin film transistors and connected to gate electrodes of thin film transistors of the corresponding row, and a source wiring line corresponding to each column of the thin film transistors and connected to source electrodes of thin film transistors of the corresponding column;

- coating solution on the transparent substrate, covering the thin film transistors, the gate wiring lines and the source wiring lines, the solution being obtained by dissolving monomer or oligomer in solvent, the monomer or oligomer being used as a raw material of organic insulating material;
- 5 irradiating ultraviolet rays upon the monomer or oligomer coated on the transparent substrate to conduct polymerization and form an insulating film comprising the organic insulating material; and
- forming pixel electrodes on the insulating film, each of the pixel electrodes corresponding to each of the thin film transistors and connected to a
- 10 drain region of corresponding thin film transistor.
10. A method of manufacturing a TFT substrate according to claim 9, wherein as viewed along a line parallel to a normal to the surface the transparent substrate, an outer periphery of the pixel electrode is superposed upon the gate
- 15 wiring line and the source wiring line.
11. A method of manufacturing a TFT substrate according to claim 9, wherein the monomer or oligomer has triple-bonds of two carbon atoms and polymerization is conducted at the triple-bonds in the step of conducting
- 20 polymerization.